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A STUDY OF SINGLE ADULT BALD EAGLE REARING YOUNG IN KANSAS

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Schwilling, Mulhern, and Horak (1989) reported on the first Kansas nesting of the Bald Eagle (*Haliaeetus leucocephalus alascanus*) in recent history on the Rock Creek arm of Clinton lake in Douglas Co. As indicated by Schwilling et al, Bald Eagles were reported to be nesting in the Lecompton area, along the Kaw River, until they were shot before the turn of the century. R. C. Martin, Lawrence High School science teacher, as a youth, observed two nesting eaglets and the adult Bald Eagles on a farm near Rock Creek, 13 miles southwest of Valley Falls, in 1944 (pers comm.).

At Clinton, the eaglets hatched on 5 or 6 May, 1989. According to Lish and Sherrod (1986), the incubation period is about 36 days, and the nestlings then fledge in about 10 weeks. Since the Clinton Lake nest fledged on 16 July, this duration for nest life appears accurate for the Clinton eaglets.

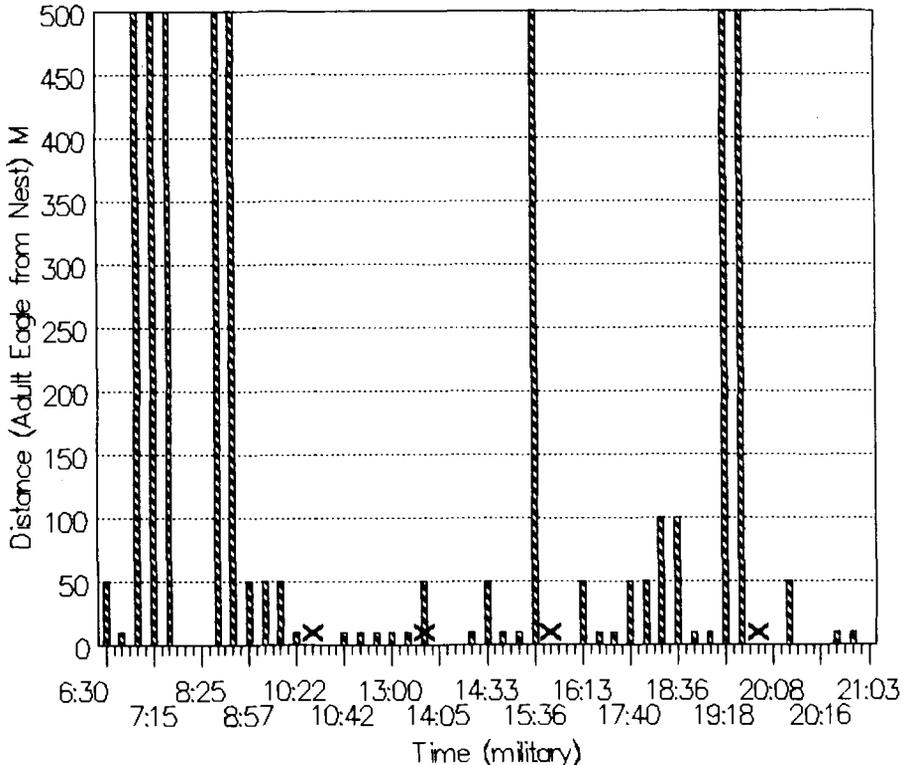


Figure 1. Eagle's location on 5 June 1989. "X" indicates when prey were brought to the nest, in this figure as well in the other figures.

Methods

As previously reported by Schwilling, Mulhern, and Horak (1989), one of the adults disappeared about 15 April. I observed the activity of the remaining adult from a vantage point south of Douglas Co. 6 near the town of Clinton on 5 June, the morning

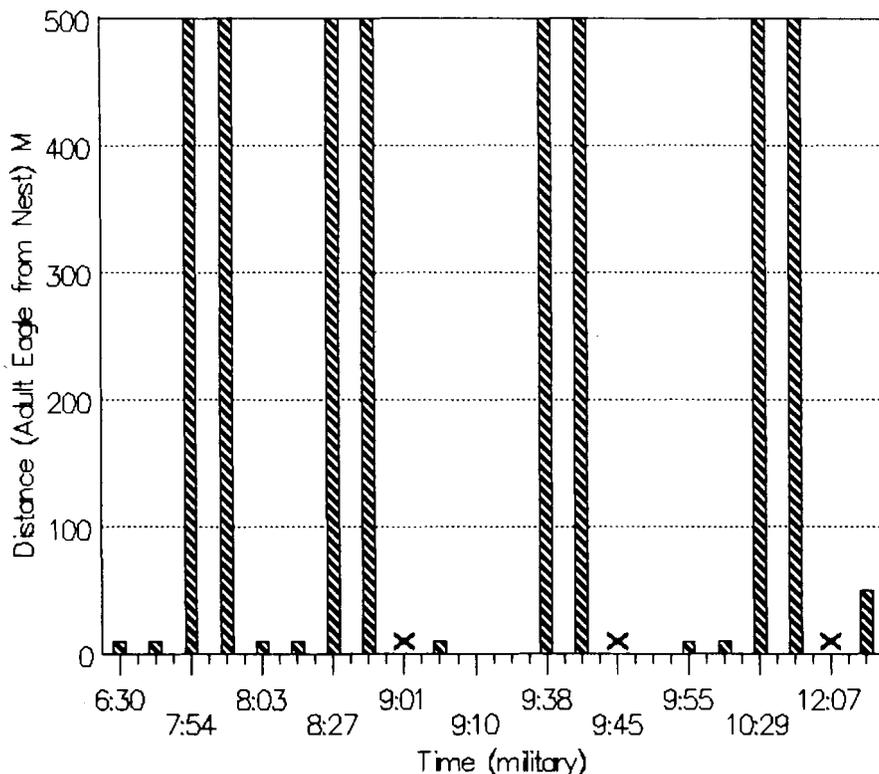


Figure 2. Eagle's location on 7 June 1989.

of 7 June, and on 25 June using 7x25 binoculars and a 1200 mm telescope. The nest was 11.3 m above the water in a 16 m dead tree. When the adult was at the tree, but not on the edge of the nest, it would perch on a limb approximately 5 m above the nest. I noted the various locations and the activity of the eagle during these observation periods. Since the eagle was beyond visible range at distances over 500 m, all observations of the adult at estimated distances greater than this are included in the 500 m category. Furthermore, when the adult perched within 3 m of the nest, it was considered at the perimeter of the nest. I assumed that the eagle remained at the nest throughout the night, since I could not make any nocturnal observations.

Results

The locations of the eagle in relation to the nest on 5 June are illustrated in Figure 1. The eagle was within 10 m of the nest 33% of the time in the morning and 85% of the time in the afternoon. The adult was actually on the perimeter 9% of the time in the morning and 17% of the time in the afternoon. The eagle was at or beyond 500 m 38% of the time in the morning and 5% of the time in the afternoon. Over all three mornings, the eagle occurred within 10 m of the nest almost half (48%) of the time. During the morning of 5 June, the eagle was within 10 m of the nest about 15% of the time less than this mean. Each episode involving prey being delivered to the nest is indicated by an "X" on the figure. The four prey items brought this day were one fish estimated to be at least seven pounds, two smaller fishes, and one prey that could not

be identified. The eagles were approximately 30 days old on this date.

The observations for 7 June only included from 6:30 a.m. to 12:08 p.m. (Figure 2). The eagle was within 10 m of the nest 51% of the time in the morning, a period 18% greater than on 5 June. The eagle was on the perimeter 10% of the morning time. The eagle extended out to the 500 m and beyond 48% of the morning period or 10% more than on 5 June. Compared with the morning of 5 June, the eagle was out of the 50 to 100 m zone about 29% less of the time than on the morning of 7 June. This change in behavior may have been the result of disturbance by boats. Early that morning, a fishing boat traveled through one of the eagle's common fishing areas about 500 m south of the nest. The eagle stopped hunting and flew to trees beyond the 500 m hunting zone. Subsequently, this fishing boat penetrated the 200 m radius restricted zone

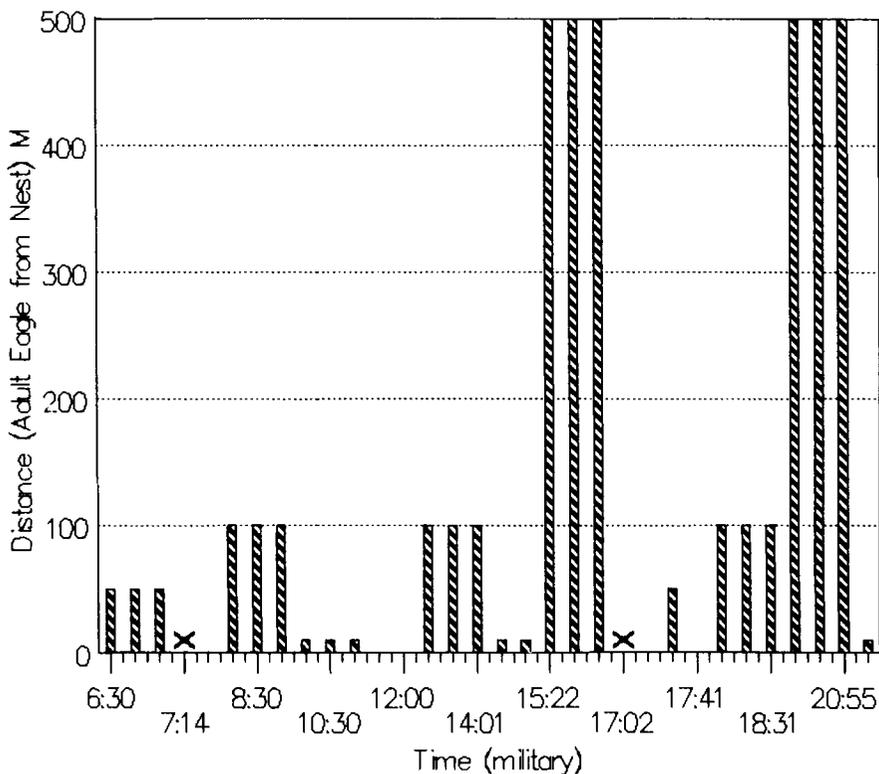


Figure 3. Eagle's location on 25 June 1989.

around the nest as it travelled across the lake. A legal entry into the restricted zone involved a boat controlled by the U.S. Corps of Engineers that were cleaning signs and repositioning the buoys. The adult brought food three times, two fish and what appeared to be a snake, as the eagle returned to the nest directly over my head.

On 25 June, the observation period was from 6:30 a.m. to 20:57 p.m. (Figure 3). The eagle was on the perimeter of the nest 11% of the time during the morning and 8% of the time in the afternoon. The eagle was within 10 m of the nest about 59% of the morning or about 11% more than the morning mean of 48%. The eagle was within 100 m of the nest all morning, 29% more than the morning mean of 71%. That morning one fish was delivered to the nest. During the afternoon, the eagle was within the 100 m zone 51% of the time, or 44% less than on 5 June. The eagle was not in the 500 m zone in the morning, but spent 49% of the time in the afternoon at this distance, 44% more than on 5 June. Again, intrusion by boats may have affected the eagle's behavior on

this day. During the early morning, two fishermen moved a boat to within 50 m of the nest, which definitely interfered with the normal feeding behavior at the nest. Upon the approach of the boat at 7:40, the eagle left the nest, where the young were being fed, and flew about 100 m away from the nest. The eaglets dropped low into the nest and the eagle did not return to the nest for another 4 hours. When the adult did return to the nest, the feeding of the young resumed. Later in the day, an excursion boat penetrated the restricted area and circled around the eagle, then perched about 100 m from the nest, several times. The boat never did stop and the eagle did not appear to be disturbed.

On the morning of 16 July, I observed the first fledging. At 10:11 a.m., the eaglet flew from the nest tree to a nearby tree. The other eaglet was positioned on the rim of the nest, facing into the wind, and ready for flight. By late that afternoon, an official of the Corps of Engineers reported both fledglings at least a mile from the nest tree.

Acknowledgements

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Tree Swallows Nesting in Bluebird Nest Boxes in Kansas. — Orville Rice reported on the nesting of Tree Swallows (*Iridoprocne bicolor*) in four counties in Kansas (1980. Kans. Ornithol. Soc. Bull. 30:23-24). All nestings, except the large colony in the flooded timber at the Marais des Cygnes Wildlife Management Area in 1979, were by single pairs of swallows.

Since 1979, there have been numerous nesting colonies developed in flooded tree areas left in reservoirs as well as records of nesting in bluebird nest boxes by this species. The colony that nested at Marais des Cygnes in 1979 increased over the next several years to exceed 100 pairs, and then gradually declined as the trees rotted and fell. By 1989, no Tree Swallows were known to nest in this area. On 9 May 1980, I observed three pairs of swallows nesting in dead tree cavities over water in the Lohman Cove area of Melvern Lake (Osage Co.). Dan LaShelle reported a pair of nesting Tree Swallows in similar habitat at Perry Lake (Jefferson Co.) in June 1980, and Steve Fretwell also reported Tree Swallows nesting in flooded timber at Tuttle Creek Lake (Riley Co.) in 1980. In May 1987 I observed a pair of Tree Swallows carrying nesting material into a dead tree cavity over water at El Dorado Lake (Butler Co.), and there were other Tree Swallows in the area. On 20 April 1989, I observed several pairs of Tree Swallows gathering nesting material along the shoreline at Clinton Lake (Douglas Co.), and carrying it to flooded snags in the Rock Creek arm of the reservoir.

On 28 March 1989, Nancy Fish established a 28-box bluebird trail in Jewell County. Two of these boxes were later used by Tree Swallows with one pair fledging six young. The young in the other box were believed to have been eaten by a snake. Randy Clark had Tree Swallows using a bluebird box in Reno County in 1989. Two successive broods were raised in one box that was on a utility pole about 1.3 m above the ground in a marshy pasture about 140 m from a 17-acre lake.

Although documented records are sketchy, Tree Swallows may be nesting where timber has been flooded in most of the reservoirs in northeastern Kansas. As these overwater snags age and fall, will these swallows disappear? Or will they make greater use of boxes along bluebird trails? Nest boxes of the appropriate size which are placed in shallow marsh areas may encourage more Tree Swallows to nest in Kansas.

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